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THE GARDEN CALENDAR

A radio discussion by W. R. Beattie, Bureau of Plant Industry, delivered during the Department period of the National Farm and Home Hour, Monday, April 19, 1937.

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Hello Folks: I don't believe I need remind you that the potato is our most important vegetable crop, that it is native of South America and was introduced first into Europe and later into what is now the eastern United States. All of this makes an interesting story if told in an interesting way, but during the next three or four minutes I want to briefly call your attention to some of the things that our Department workers and the State Experiment Station men have done to insure better crops of better potatoes. About 3,300,000 acres of potatoes are harvested, or dug if you prefer that term, in the United States each year, but the average yield the country over is only about 108 1/2 bushels to the acre. It may not strike you that a yield of 108 1/2 bushels is half bad, but when you consider that many growers are getting an average of 250 bushels and still others are getting 300, 400 and sometimes 600 bushels on their acres, some of the potato acres must be turning out much less than the average of 108 1/2 bushels.

For many years fields of potatoes grown for seed have been inspected in order to reduce, or eliminate altogether, the virus diseases which were responsible for potatoes losing vitality and running out as many growers say. The seed potatoes from these inspected fields are sold under a certification tag showing that the required inspections have been made and the virus diseases have been reduced to a minimum. It is estimated that yields have been increased over 40 bushels to the acre where the certified seed has been used.

A number of years ago our men here in the Department and certain of the State Experiment Station men who were cooperating with them, found that virus diseases were not responsible for all of the low yields and that the temperature at which the seed potatoes were kept had a lot to do with it, especially with the way the growth started off in the spring. They found that the highest yields, were, in most cases, produced where the seed potatoes were kept at a temperature of 50 degrees, the second best yields at 40 degrees, and the lowest yields where the seed was kept at 35 degrees. It was shown by these experiments that where the seed potatoes were taken directly out of cold storage and planted that the plants were slow in appearing and poor stands resulted. As a result of experiments conducted by our storage men in the Division of Horticultural Crops and Diseases it is recommended that where seed potatoes are stored at temperatures below 40 degrees, or even below 50 degrees, that the seed be taken out of storage at least ten days or two weeks before it is wanted for planting, and during this ten-day period be kept at a temperature of about 70 degrees to warm up and cause the sprouts to start slightly. Our workers have found that where the seed is cut in advance of planting it should be stored at about 60 degrees and with plenty of moisture in the air. Treated in this manner before planting the potatoes come up quickly and there are a larger number of sprouts to each seed piece.

Another line of experiments conducted by the workers in our Horticultural Division in cooperation with certain of the State Experiment Station men have had the objective of finding out more about the method of applying fertilizers to potatoes. The old method of drilling the fertilizer in the rows sometimes injured the stand and did not appear to give best results. As a result of years of careful trials it was found that where the fertilizer is drilled in two bands or ribbons about 2 inches from the seed, on either side and slightly lower than the seed, that best results were obtained. In other words, where the fertilizer is placed where the outgrowing new roots will find it when they are about two inches in length the best yields are obtained. Reference to all of these methods will be found in Farmers' Bulletin No. 1064 on the production of late or main-crop potatoes. It is Farmers' Bulletin No. 1064.

While we are on the subject of seed potatoes it might be well to mention that potatoes that have been frozen are not suitable for seed. Potato growers are quite often confronted with the problem of deciding whether to discard outright or to attempt to use seed that has been more or less injured by freezing in storage or transit. A few years ago three of our Department workers conducted a series of experiments to determine the effect of freezing. As a result of these and subsequent experiments it was found that where the potatoes were only slightly frozen they may be used for seed. In line with the more recent experiments to determine the effect of low temperatures upon the growth and yield of potatoes our advice would be to avoid the planting of seed potatoes that have been frozen also to give seed that has been kept in cold storage a thorough warming up for about ten days before planting.

The results of the Federal experiments have been reported to the State horticulturists and will be used in formulating your State recommendations for improved methods of growing potatoes.